

## C-204 Checkoff Sheet for Lab 8 Part 2 ( 20 points)

The status of the combination lock can be one of three: (An output on terminal can replace the LEDs)

- Unlocked (Green LED) . Initial status of the lock. It can be soft locked by pressing a '1' ; no other actions possible
- Soft Locked (Yellow LED) The lock receives combinations input by the user thru UART
- Hard locked (Red LED) . The lock does not receive any user inputs. It can be unlocked only by a reset

A,B,C,D are each worth 5 points

### A. Basic Combination Lock

Based on the code snippet provided. A FSM should be drawn. The correct combination is hard coded in the code and cannot be changed by the user.. The lock should go to the soft locked state by pressing a '1'. The user is then allowed to input a single combination of his choice. If correct, the lock goes to Unlocked status. If incorrect, the lock goes to Hard locked status

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### B. Option to have 3 opportunities of his choice to provide the correct combination.

For the first 2 wrong inputs the lock goes to Soft locked status and gives an opportunity to enter one more combination. After the third consecutive wrong input the lock enters Hard locked status

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### C. Time limit on providing inputs

Similar to 'B' with the additional restriction that all inputs must be provided within 20 secs. If the constraint is violated, all inputs provided will be lost and the lock enters Soft locked state to provide another opportunity to enter no more than 3 inputs within the stipulated time

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### D. User can provide the correct combination of his choice

When in Unlocked status , user can press '2' and enter a correct combination of his choice which is no longer hard coded. Repeat only 'A' with this added feature

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